EXPRO National Manual for Projects Management

Volume 7, Chapter 2

Project Budget Control Procedure

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1.0 PURPOSE

The Budget Control Program's purpose is to establish the project original budget, maintain the current budget to reflect project developments to date and to communicate the current status of the project budget to Management. This procedure describes the control process to be used for the development, implementation, and maintenance of the approved budget on a project.

This procedure applies to works performed under all Government construction projects executed throughout the Kingdom of Saudi Arabia.

2.0 SCOPE

The scope of this procedure includes establishing a formal system to control and maintain the project budget, which will keep the budget information current by incorporating changes in scope. Depending on the scope of the project, the budget control procedure may be modified and documented in the approved Project Controls Implementation Plan with Mashroat concurrence.

3.0 DEFINITIONS

Definitions	Description
COA	Code of Account
OB	Original Budget – This is the agreed contract awarded value.
CB	Current Budget – This is the Original Budget plus approved changes.
CF	Current Forecast – The current forecast is the current budget plus and y unapproved trends.
WBS	Work Breakdown Structure - A WBS is a logical top-down structure that defines and displays the project scope for all of the work to be performed in accomplishing the project objectives
LD	Liquidated Damages
OBS	Organization Breakdown Structure
EVMS	Earned Value Management System
PM	Project Manager, responsible for all aspects of project delivery.
PCM	Project Controls Manager
PCE	Project Controls Engineer
MS	Management Schedule
BA	Budget Adjustment/Transfers
Contractor	One that agrees to furnish materials or perform services at a specified price, especially for construction work.
Entity	A Saudi Government organization which is responsible for the delivery of government funded infrastructure construction projects.
Backcharge	A charge by either the Entity/Contractor as a means of recovering all the costs incurred by the Contractor/Entity to correct or repair and/or modify deficient work that is directly result of the Entity/Contractor.

4.0 REFERENCES

1. EPM-KPC-PR-000001 - Project Coding Structure Procedure
2. EPM-KPC-PR-000007 - Project Trend Program Procedure
3. EPM-KPC-PR-000003 - Project Cost and Commitment Procedure
4. EPM-KPC-PR-000004 - Project Forecasting Procedure

5. EPM-KPC-PR-000009 - Project Backcharges Procedure
6. EPM-KPP-PR-000001 - Project Planning and Scheduling Definitions and Concepts Procedure

5.0 RESPONSIBILITIES

The Project Manager, along with the Project Controls Manger and the Project Controls Management team, issues the completed Original Budget.

The Project Manager along with the Project Controls Manger reviews and approves budget detail and maintenance reports. The Project Controls Engineer is responsible for preparing, issuing for review, and maintaining the budget including:

- Establish/maintain a project coding structure and WBS.
- Incorporate management adjustments and budget transfers prior to issuing the OB.
- Incorporate scope changes as necessary.
- Prepare budget maintenance reports.
- Process Budget Transfers.

The Project Controls Engineer are assigned to Project Controls project team in the permanent office and deployed to construction in the field. They are responsible for implementing this procedure with respect to their respective coding structure and approved budget.

6.0 PROCESS

6.1 General

All projects are required to establish and maintain budget control in accordance with this procedure. The approved project budget establishes a structured project definition of quantified scope and resources required over a definitive period of time to execute the work agreed between the Entity and the Contractor. It provides a base with which to compare actual progress and performance. Identify deviations from the baseline as awarded.

A project budget is developed from the project estimate that is reorganized to facilitate direct comparison of planned and actual costs, jobhours, quantities, and time. The information in the estimate is redistributed to form the original budget for controlling and reporting. The OB is established upon award of the project and reflects the agreed-on project scope, cost, and schedule. It may also include management adjustments and budget transfers. Because all projects undergo changes in scope, budgets are revised accordingly to provide a meaningful yardstick against which progress and performance are measured. This budget provides a baseline reference at the start of the project.

The project's current budget is the OB adjusted to include Entity approved scope changes, which continues to reflect the project execution objectives and strategy.

The redistribution from the estimating format to the reporting and controlling format is facilitated by using the approved requisite code structure (Ref EPM-KPC-PR-000001) and is necessary because:

- The estimate format does not always line up with the way costs are collected or expended. Similarly, major equipment may be estimated at a summary level but the installation may require a further breakdown by work activities.
- Escalation, which is frequently calculated at the summary level only, must be allocated to the accounts, which will attract escalation.
- The estimate may be modified during Entity and management reviews and subsequent negotiations/clarifications through additions or deletions in the form of one-line entries. These amounts must be incorporated into the affected detail accounts.
- The project execution may require a different strategy approach which will require reallocation of the costs.

Attachment 1 provides a flow chart for the Budget Control Program. Normally, the approved project budget is loaded at the approved coding structure level.

6.2 Code of Accounts / Coding Structure

Refer to Document EPM-KPC-PR-000001

6.3 EVMS – WBS and OBS

On many projects, the standard budget procedure may be supplemented by the Earned Value Management System requirements. The EVMS element that integrates planning and scheduling is a comprehensive coding structure that connects each item in the work breakdown structure with the responsible Entity in the organizational breakdown structure (Ref to EPM-KPC-PR-000001 Project Cost Coding Structures Procedure).

The resulting matrix of control accounts (i.e., the intersection of the WBS and the OBS) is the basis for detailed cost planning, development of the integrated master schedule, resource allocation, and the accumulation and reporting of cost and schedule performance. The time phasing of the work in the control accounts is represented in the integrated master schedule, which encompasses the entire scope of the contract and forms the basis for the schedule baseline against which progress is monitored.

6.4 Budgeting

6.4.1 Preparation

As part of the estimate preparation, a number of individual and summary documents are prepared. These become part of the turnover documentation given to the project execution team in an estimate presentation turnover meeting. The estimate contains a preliminary/original budget summary based upon the approved negotiated estimate/ awarded value, including any late adjustments resulting from Entity and management reviews including final negotiations with the Contractor. This summary is prepared prior to detailed development of the project budget documents. A recommended format is provided in attachment 2.

The estimate turnover documentation should include, but not be limited to, the following for turnover to the project.

- Detailed Estimate
- Project Estimate Summary
- Entity project associated costs.
- Contractor Cost breakdown.
    - Engineering / Home Office Services.
    - Procurement Costs (Material, Equipment, Bulks etc.).
    - Construction.
- Escalation Worksheet
- Management Schedule.

Depending on the form in which the estimate was prepared, the method of redistributing the estimate to develop a project budget will vary. A thorough understanding of the estimate is necessary to assign value (SAR), quantities, and hours to the proper accounts. The reapportionment should be performed with guidance from the estimating group. Attachment 3 gives an example of redistributing a “Management Adjustment” to the detailed line items.

It is important to provide documented traceability of all assumptions and transactions made during the budgeting process. The budgets are issued to project personnel by the project management team under the Project Manager's signature as soon as possible after the Entity acceptance of the estimate or upon contract award.

6.4.2 Entity Project Costs

The Entity is required to include all the associated costs that they are directly responsible for. These should be allocated according to the coding structure EPM-KPC-PR-000001.
These would be, but not limited to:

- Land acquisition as required
- Permitting.
- Project Management Consultant costs.
- Entity staff associated with the project.
- Provision of utilities as defined in the Contract.
- All procured materials to be provided by the Entity.
- Survey cost as required.
- Local consultant's requirements.
- Contingency and Risk
- Currency cost
- All other cost provided by the Entity and excluded from Contractors Cost.

6.4.3 Contractor Costs

6.4.3.1 Budgeting for Procured Materials/ Subcontracts

Procured material costs are assigned to material coding as defined under EPM-KPC-PR-000001. Direct subcontract budget development is the same as that for direct materials. Detailed costs, quantities, and hours are developed as needed so that each subcontract can stand on its own as a controllable package. Potential redistribution of these costs includes the following scenarios:

- Items estimated at a detailed level may only require a summary level for controlling purposes
- Items estimated at a summary level may require a more detailed level for controlling purposes.
- For some accounts estimated as subcontract may require greater clarity.
- Items estimated with one discipline may be better controlled with another.

All applicable taxes, Insurance, performance bonds/letters of credit will be included with the applicable items. These shall be identified as required under the Contract.

6.4.3.2 Home Office Labor & Engineering Cost

Home office services costs are budgeted in conjunction with the coding structure and the Finance/Controller Uniform Chart of Accounts. Labor costs are classified by discipline. Home office hours are budgeted in detail for reimbursable projects and at a summary level by discipline for lump sum projects. These will be transmitted to the relative departments by the Project Controls Manager.

Contractor will prepare the engineering jobhour budgets by discipline and category of work item by defining the drawings, specifications, material requisitions, studies, calculations, and deliverables required to meet project needs. Project Controls generally uses the engineering module of the cost processor to provide effective project deliverable time phasing, quantification, objective progress measurement, and analysis.

6.4.3.3 Construction Budget

The Construction budget shall include all direct and distributable manual labor; direct and distributable material, services, and subcontracts; and non-manual labor. Manual labor hours and quantities shall be broken down by discipline, as required by the project coding structure. Estimate backup detail and input from the Construction team should be used for further detail breakdown.

6.4.4 Historical Data

Historical data and site conditions are also used to develop the distributable labor, materials, subcontracts, and non-manual labor budgets in accordance with the project coding structure. If in the Project Estimate these items were estimated as a single line item, then using the historical data they will be split into the detailed coding structure for monitoring purposes. Historical ratios may be used to do this, but because distributable hours and material costs are sensitive to site conditions, they must also be taken into account. Project Controls must work closely with the construction team to develop these budgets.

6.4.5 Escalation

Escalation is the projected SAR amount, which brings the current (or other base time reference) cost of labor and materials in the estimate up to the anticipated cost at the time of expenditure. Generally, cost escalation should be distributed to all items budgeted except items which are included in the estimate as firm prices. Escalation may be identified as a separate line item in a budget or broken out into separate accounts based on execution strategy. Escalation should be administered and reconciled so that when the budget is fully prepared, it should add to the total amount included in the project estimate summary. Attachment 4 is an example of the initial distribution of escalation.

6.4.6 Contingency

Contingency is the amount of money, hours, and time that must be included in the estimate and schedule to provide for uncertainties in quantity, pricing, productivity, activity duration, and schedule that are within the defined scope of the project. Contingency is designated as a separate line item in the budget and should not be spread by work item or account, except through the formal trend program.

6.4.7 Currency Exchange

Currency Exchange will only be applicable where the Contract is awarded in a foreign currency (not SAR) and is budgeted and administered based on the awarded currency. Should the contract be awarded in a foreign currency the project may elect to have the currency exchange at a fixed rate, and all trends, budget transfers, change orders, etc., would be reflected at that rate. Reimbursable projects may elect to use “peg” or “float” rates with currency translations. It is critical to regularly analyze the current currency exchange rates to determine positive/negative impacts caused by fluctuations.

6.5 Budget Setup

The budget setup process entails the detailed breakdown of the project estimate in line with the coding structure to allow for the detailed monitoring of the costs. The PCM must ensure that, at the total summary level, the budget adds up to the final revenue and cost figures approved by management. When the budget is complete, a detailed original budget report (Attachment 5) is produced and distributed.

After the Original Budget has been set up, the Project Manager may direct the project to establish and monitor performance against more aggressive (“stretch”) goals so that the target budget is less than the approved budget on project. These reductions may be made on a pro rata basis or applied selectively where opportunities for under running are believed to exist. Reports transmitted off project are based on the approved budget values not on the targets.

6.6 Evaluation of the Cost and Schedule Impact

As the project progresses, deviations from the budget continually occur. These may be due to engineering design developments, jobsite modifications, labor and material pricing, labor productivity, and management decisions. For a lump sum project these will be deemed to be included by the Contractor. In a reimbursable project these items will require to be considered carefully as some should be covered by the Contractor. The three mechanisms that can change a budget are adjustment, revision, and updating.

- Budget Adjustments: Budgets are adjusted via internal transfers when there is a change within or between departments or cost accounts.

- Scope Changes: Budgets are revised through the Contract Scope Change procedure, involving a change in scope that has been approved by Contractor management and formally approved by the Entity.

  Note: Approved Change Orders may generate a change in the non-reimbursable elements of the project budget as well as in the reimbursable elements
  .
- Other: For reimbursable projects, budgets may be updated when the Entity and Contractor have both approved a new Project Current Budget. This new budget is not to be confused with a new forecast, which has been accepted by the Entity (reimbursable only). Forecasts NEVER change budgets.

The Trend Engineer or other designee is responsible for identifying, quantifying, and providing cost and jobhour estimates for these changes. Once these changes/transfers are approved as resolved trends by the Project Manager, the Trend Engineer provides the estimates to the Cost Engineer for input to the cost processor.

Deviations from the established budget are documented utilizing one of the following methods:

- Budget Adjustments/Transfers (BA)
- Trends
  - Scope Change Trends
  - Other (Non-Scope Change) Trends

6.6.1 Budget Adjustment/Transfers

As a job proceeds, changes may occur in the manner of executing project scope, which leave the total job cost unchanged. Budget transfers redistribute budgeted resources to reflect current division of responsibility without changing the total budgeted job cost. The net result of the additions and deletions is always zero SAR and zero jobhours.

Transfers may arise when:

- Scope of work for one organization/function/department/discipline is transferred to another group.
- Previous scope trend values can now be broken out or distributed in greater detail than when originally incorporated.
- Purchasing plan was defined as “1 Lot” and now material budgets need to be broken out into separate cost codes.
- Original Budget reallocation is used to reallocate, break into more detail, or roll-up into less detail budget line items from the Original Budget load. This is used to ensure that the Original Budget accurately reflects the estimate intent and the Project Execution Plan.

Budget transfers are developed using an estimating worksheet (Attachment 6) and are issued formally with a consecutively assigned number. Information is recorded with the same level of detail as the Current Budget and includes a description of the transfer and the accounts affected, including the associated hours, dollars, and quantities. The budget adjustment feature of the cost processor should be used to maintain an auditable record of all budget change transactions.

6.6.2 Trends

Changes that may result in a net change to the total project cost or changes in schedule (excluding contingency) are considered trends.

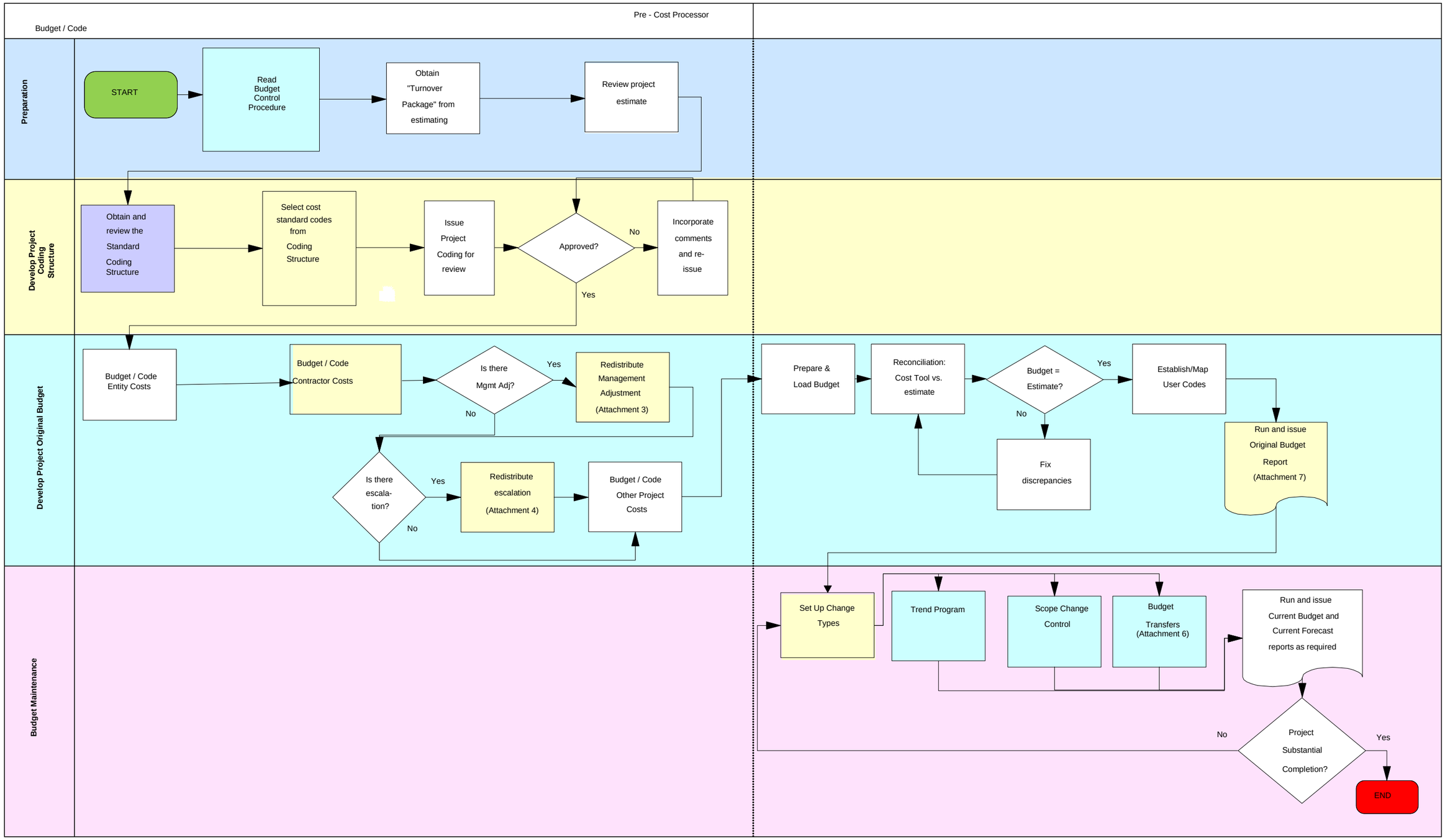
Refer to EPM-KPC-PR-000007 Project Trend Program Procedure.

7.0 ATTACHMENTS

1. Budget Control Procedure Flow Chart
2. EPM-KPC-TP-000001 - Preliminary / Original Budget Summary Template
3. Management Adjustments
4. EPM-KPC-TP-000002 - Escalation Worksheet Template
5. EPM-KPC-TP-000003 – Original Budget (OB) Report Template

6. EPM-KPC-TP-000004 - Budget Transfer Notice Template
7. EPM-KPC-TP-000005 – Overall Man-Hours Cost Status Reports by Category Template

Attachment 1 - Budget Control Process Flow Chart



Attachment 2 - EPM-KPC-TP-000001 - Preliminary / Original Summary Template

PRELIMINARY / ORIGINAL BUDGET SUMMARY
All Costs in Thousands of Saudi Arabia Riyal SAR

Job No. _____Contract _____Scope _____ Date _____
Client _____ Prepared By _____
Location _____ Project Controls Mgr.Review _____

	SAR	HOURS
CONTRACTOR COSTS		
Major Equipment - Material		
- Subcontracts		
Other Procurement - Material		
- Subcontracts		
HO Services Costs Engineering		
HO Services Costs PM		
Construction Costs		
TOTAL CONTRACTOR COSTS	SAR	
ENTITY COSTS		
Land acquisition csts		
Permitting.		
Proj. Manag. Consultant costs.		
Entity staffing		
Provision of utilities.		
Procured materials.		
Survey cost as required.		
Local consultant's costs.		
TOTAL ENTITY COSTS	SAR	
TOTAL PROJECT COSTS	SAR	

Distribution:

Conversion Rate Used: SAR_____/_____

Attachment 3 - Management Adjustments

EXAMPLE

Management Adjustment Assumptions:

After reading through the review packages and notes, and talking to the Project Estimators, have discovered the following about the Management Adjustment:

1. The total adjustment is (SAR 3,184,000).

2. Procurement has been challenged to an additional 5% buyout on all materials and equipment except the Industry Specific Mechanical Equipment.

3. Expectations are that the Industry Specific Mechanical Equipment will come in at least SAR 315,000 under budget.

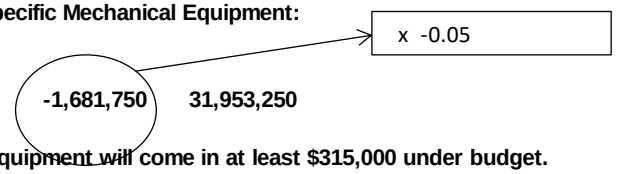
4. Construction has been challenged to bring in the direct labor at a 0.95 performance. Construction estimated this would reduce by 3.5%.

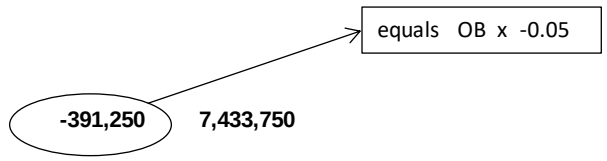
5. Engineering has been challenged to a 3% reduction in labor. Estimating determined this would have the effect of an additional 2% reduction in OHO labor.

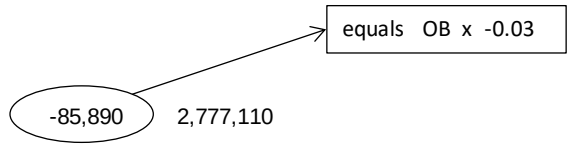
6. Project Management has been challenged to reduce Warranty by SAR 100,000; LD's by SAR 200,000; and Insurance by SAR 200,000.

EXAMPLE

Cost Code	Description	Original Budget (**)	Mgmt Adj. Allocation	New Original Budget
1. Total adjustment must sum to ($3,184,000).				
2. 5% additional buyout on all materials except Industry Specific Mechanical Equipment:				
	Contractor Procurement	**33,635,000**	**-1,681,750**	**31,953,250**
3. Expectations are that the Industry Specify Mechanical Equipment will come in at least $315,000 under budget.				
	S/T No. 3	**75,270,000**	**-315,000**	**74,955,000**
4a. Construction labor at 0.95				
	S/T No. 4a	**7,825,000**	**-391,250**	**7,433,750**
4b. Construction 3.5% reduction				
	S/T No. 4b	**4,518,000**	**-158,130**	**4,359,870**
5a. Contractor Engineering Services 3% reduction				
	S/T No. 5a	2,863,000	-85,890	2,777,110
5b. Entity staffing 2% reduction				
	S/T No. 5b	**2,626,000**	**-52,520**	**2,573,480**
6. Savings in Warranty, LD's and insurance				
	Permits	435,000	-100,000	335,000
	Contingency	514,000	-200,000	314,000
	Insurance	1,723,000	-200,000	1,523,000
	S/T No. 6	**2,672,000**	**-500,000**	**2,172,000**
	Grand Total		**-3,184,540**	
	Put balance of (SAR 540) against insurance			
		1,523,000	540	1,523,000
			-3,184,000	







**** The Original Budget comes from the redistribution of the Project Estimate.**

Attachment 4 - EPM-KPC-TP-00002 - Escalation Worksheet Template

Dummy Project
Job No.: 95399-780
ESCALATION WORKSHEET

Total Cost less Escalation: 248,311,000

Escalation Value allowed 25,582,000
Value reallocated to various accounts

Description	MATERIAL Matrl & S/C	Terms (Months)	Composite % Rate	Matrl & S/C S/T Escal	LABOR Labor	Terms (Months)	Composite % Rate	Labor S/T Escal	Total Escal
Entity Costs									
Land acquisition as required	22,500,000	14	2.42%	545,000				0	545,000
Permitting.	15,000,000	10	1.50%	225,000				0	225,000
Project Management Consultant costs.	0			0	200,000,000	18	6.06%	12,119,000	12,119,000
Entity staff associated with the project.		0	0.00%	0	75,000,000	18	6.06%	4,545,000	4,545,000
Provision of utilities as defined in the Contract.	30,000,000	24	0.00%	0	0	0	0.00%	0	0
Procured materials	40,000,000	15	2.42%	968,000				0	968,000
Survey cost as required.		0	0.00%	0	15,000,000	10	7.81%	1,171,000	1,171,000
Local consultant's		0	0.00%	0	10,000,000	18	6.06%	606,000	606,000
Contractor Costs									
Procured Materials	60,000,000	15	2.42%	1,452,000					1,452,000
SubContracts	7,500,000	24	6.06%	455,000					455,000
Engineering HO Services	**1,400,000**	**12**	**2.00%**	28,000	10,000,000	12	2.42%	242,000	270,000
Construction	**10,000,000**	**20**	**3.69%**	369,000	**50,000,000**	**17**	**5.71%**	2,857,000	3,226,000
Totals	186,400,000			4,042,000	360,000,000			21,540,000	25,582,000
			Material:	2.17%			Labor :	5.98%	
						TOTAL ESCALATION		4.68%	25,582,000
						TOTAL COST			571,982,000

SAMPLE

Attachment 5 - EPM-KPC-TP-000003 - Original Budget (OB) Report Template

Example

Project Cost Report by Cost type/ Cost Account
Details by Cost Account
All numbers are in x 1000

		Rundate	25 August 2017
Job Number		Time	11:17:37
Client Name		Selected Currency	SAR
Location	**Kingdom of Saudi Arabia**	Exchange Rate	

Account Description		Labor				Material				SubContracts				Total Project Cost			
		Amounts				Amounts				Amounts				Amounts			
		Current Budget	Current Forecast	Commitment	Cost	Current Budget	Current Forecast	Commitment	Cost	Current Budget	Current Forecast	Commitment	Cost	Current Budget	Current Forecast	Commitment	Cost
TOTALS																	

Attachment 6 - EPM-KPC-TP-000004 - Budget Transfer Notice Template

Example

ENTER PROJECT NAME HERE Project Number

BUDGET TRANSFER NOTICE

NOTICE NO. **R-068** **Date Issued** 03/16/95

REFERENCE STUDY N STD-182 (ATTACHED)

BUDGETS EFFECTED: YES CURRENT BUDGET YES CURRENT FORECAST

DESCRIPTION OF WORK TRANSFERED:

APPROXIMATELY 10 SPREAD FOUNDATIONS WILL BE NEEDED FOR THE PIPE BRIDGE IN LIEU OF PILE CAPS FOUNDATIONS.

TRANSFERED PILING SUBCONTRACT SAUDI RIYALS TO CONCRETE ACCOUNTS TO COVER THE ADDITIONAL MATERIAL AND LABOR.

REASON FOR WORK TRANSFER:

DESIGN EVOLUTION

EFFECT ON SCHEDULE:

NONE

1. TARGET MANHOUR CHANGE 946 MHRS

ENTITY. _____

PROJECT MANAGER _____

ENTITY APPROVAL _____

DATE: _____

Note: this is to be supported with a detailed breakdown of the cost transfer by account to support the transfer.

Attachment 7 - EPM-KPC-TP-000005 - Overall Man-Hours Cost Status Report by Category Template

Overall Mhrs Cost Status Report by Category

PROJECT TITLE
Job No: XXXXXXXX
Start date: XXXXXXXX
Cut-off date: XXXXXXXX
Report Date: XXXXXXXX

SUMMARY REPORT

DESCRIPTION	ORIGINAL BUDGET (a)	APPROVED CHANGES (b)	PENDING CHANGES (c)	CURRENT BUDGET (d)=(a)+(b)	ACTUALS to Date (e)	FORECAST to COMPLETION (f)	CURRENT FORECAST (g)=(e)+(f)	OVERALL VARIANCE (h)=(f)-(d)
Contractor HO Engineering								
Process								
Mechanical								
Electrical								
Civil Structural								
Geomatics								
Designer								
Instrument								
Piping								
Railway Eng								
Project Management								
Project Controls								
Estimating								
Procurement								
Translation								
Construction								
HO Engineering SUB-TOTAL								
Procurement								
Equipment								
Piping								
Electrical								
Instruments								
Transporation								
PROCUREMENT SUB-TOTAL								
Construction								
Civils								
Mecanical								
Electrical								
Instrumentation								
Commissioning								
CONSTRUCTION SUB-TOTAL								
ENTITY								
Land acquisition as required								
Permitting.								
Project Management Consultant costs.								
Entity staff associated with the project.								
Provision of utilities as defined in the Contract.								
Procured materials								
Survey cost as required.								
ENTITY SUB-TOTAL								
TOTAL FOR PROJECT								